TMD DISCUSSION PAPER NO. 67

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Abstract

Growth in the first post-reform decade in Latin America has been disappointing, largely because of a severe slowdown after 1995 in the countries in South America. Per capita income grew at only .9% per year between 1995 and 1999 compared to 2.7% for 1950-80 and 1.5% for the nineties as a whole. What has gone wrong? The paper finds that neither falling investment, volatile capital inflows nor the implementation of structural reforms is the problem. Indeed relative growth performance across countries is positively related to the amount of reform they adopted. Instead the problem seems to relate to a significant reduction in the growth rate of exports since 1997. Mexico, Costa Rica and the Dominican Republic did well, but every country in South America has suffered a reduction in exports with the exception of Colombia where they were constant. Partly that is because the countries that are the main markets for Latin exports are not growing as fast as they were, but South America is also losing market share in those countries. The basic assumption of the new reform growth model is that exports will be a significant engine of growth. It does not seem to be working out that way for South America. It is not clear what the cause of the export slowdown is, but no export-led growth strategy is going to work if it cannot produce an export growth rate higher than 2.3% per year.

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For most Latin American countries, the 1990s have turned out to be a disappointment. Almost all of them adopted the reforms of the Washington consensus. They controlled inflation, sold off state enterprises, lowered tariffs, opened their capital markets, reformed their tax systems, and lowered government deficits. For a time, prior to the Tequila Crisis in 1995, things seemed to be going well. Growth rates were much higher than they had been in the 1980s, and for some countries were even higher than they had been in the long period between World War II and the debt crisis. Things were expected to get even better in the following years since in many countries the reforms had only recently been adopted and since it takes time to reap their full benefits.

But it is not working out that way for most of the countries in the region. Instead of accelerating, growth has declined, especially in the countries of South America. Overall average per capita income growth between 1990 and 1995 was 2.9% per year.[2] That rate fell to .8% per year between 1995 and 1999. Only two countries (Trinidad and Tobago and the Dominican Republic) did better in the last five years than they did in the previous four, and both of them are in the Caribbean.

This decelaration of growth is particularly pronounced in South America. Over the entire decade 91-99, growth in South America was 1.6% per year, in Central America 1.4%. But in the last five years growth in South America has fallen to .5% per year while in Central America and the Caribbean it fell to only 1.2% per year. The 95-99 period was for South America a period of recurrent recessions in some countries (Argentina and Peru) and protracted recession in others (Brazil, Colombia, Paraguay, Ecuador and Venezuela (also Jamaica). If one defines a recession year as one in which per capita income declines, the South American countries were in recession 40% of the time between 1995 and 1999. In Central America the comparable figure was 20%, or excluding Jamaica, only 12% of the time.

In thinking about growth rates or evaluating country performance, it is appropriate to compare current with past performance avoiding periods of extreme volatility. One is looking for estimates of long term growth rates which one cannot obtain from periods of recession and recovery. For Latin America that suggests a comparison of growth in the 1990s with growth in the thirty year period 1950-80 period to the debt crisis. (See table one) As the reader can see from the table, only five of the nineteen countries for which we have data significantly improved their performance. (Argentina, Chile, Dominican Republic, Peru and Ecuador) Growth rates in Bolivia and Panama are about the same, and the rest of the countries are doing worse than they used to do. If one looks at just the last five years, there are only four countries whose performance is better than the base period and nine for which per capita growth is now at least 2% per year below the base period. In short, in the last five years something seems to have gone wrong especially in South America. What could it be?

In Costa Rica and Mexico, the slowdown over the 1995-99 period shown in table one is

[2] That is, for the years 1991-1994.

Table One: Growth and Recession in the 1990s				
	Growth rates in GDP per capita			
	50-80	91-99	95-99	years of recession 95-99
argentina	1.572	3.300	0.827	2
Bolivia	1.431	1.400	1.338	1
Brazil	4.016	1.000	0.734	2
chile	2.056	4.400	3.222	1
Colombia	2.402	0.500	-0.845	2
C. Rica	3.142	1.200	1.175	2
Ecuador	4.083	-0.200	-1.647	2
El Salvador	2.843	2.300	1.201	1
Guatamala	1.842	1.500	1.438	0
Honduras	1.375	0.200	-0.126	1
Mexico	3.388	1.300	0.895	1
Paraguay	2.637	-0.600	-1.300	4
Peru	1.864	2.900	2.576	1
R. Dom.	2.652	3.100	4.294	0
Uruguay	0.865	2.400	1.414	2
Venezuela	2.373	-0.300	-1.411	3
Jamaica	2.329	-0.500	-1.589	4
T+T	6.774	2.300	2.781	0
Panama	2.738	2.800	1.468	0
average Latin America	2.652	1.526	0.866	0.3053
average-C. America	3.009	1.420	1.154	0.2000
average S. America	2.330	1.644	0.545	0.4000

Source: Base period data are taken from World Bank tables, data for the 1990s are from CEPAL data base.

somewhat misleading because it reflects a single year of financial crisis early in the period. (Mexico, 1995 and Costa Rica 1996). Growth trends in both countries have recovered strongly since those crises. These two countries probably should be added to the DR and Trinidad and Tobago as countries with positive growth trajectories and prospects at the end of the decade. But the good news seems to stop there. Argentina and Uruguay were both hit by the Tequila Crisis in 1995 and again in 1999 by Brazil's devaluation in 1998. There are at least eleven other countries in which the growth trends over the last five years are negative and another two (Bolivia and Honduras) which had a sharp reduction in the growth rate in 1999. We summarize the various patterns in table two.

Table 2: Growth Patterns: 1995-99

Countries where growth is rising over period 1995-99	Domincan Republic, Trinidad and Tobago, Mexico* and Costa Rica*
Countries where the growth trend is down over period 1995-99	Brazil, Chile, Colombia, Ecuador, El Salvador, Jamaica,Panama, Paraguay, Peru, Uruguay, Venezuela
Countries with sharp fluctuations in growth and recessions particularly at end of decade	Argentina, Uruguay, Honduras, Bolivia
Countries with slow, but relatively steady growth	Guatemala

*Growth is lower than in 1991-4 because of one year of severe recession.

What has gone wrong? There are plenty of alternative candidates. It could be that the investment rate has never recovered from the decline it suffered in the 1980s. In that case the growth rate would be lower simply because the growth rate of fixed capital is lower. It could also be that the sharp reduction in the protection of import substitutes has reduced the domestic production of tradables by more than the hoped for expansion of exports has increased it. It could also be that the international environment is now less favorable than it used to be in the 1950-80 period or than it was earlier in the 1990s. Reductions in capital flows after the Tequila Crisis in 1995 and the East Asia financial crisis in 1998 coupled with falling world prices for commodities all may be having a negative impact on the prospects and growth of Latin America. Finally the effect on growth of the reforms themselves could be perverse. We now consider each of these possibilities.

Falling investment is not the problem

It does not appear that the problem is a decline in capital formation, except in the three oil exporters: Ecuador, Trinidad and Tobago and Venezuela where both investment and growth have fallen sharply. Of the remaining 16 countries all but three increased their investment rate and for the region as a whole, gross investment as a percentage of GDP is slightly higher in the 1990s than it was in the base period.

To focus on the question of whether changes in the rate of investment are why there have been changes in the growth rate of GDP it is useful to divide up the sample into one set of countries that grew significantly faster in the 1990s than they did in the base period, a set which grew significantly slower, and a third set whose growth rate is has not changed. Note that this classification is based on a comparison of growth rates in per capita income. We can then ask to what extent membership in these three groups is

correlated with changes in investment rates. For each of these groups we show the investment rate and the GDP growth rate in both the base period and the 1990s. (See table 3)

Table 3: Investment rates and growth

	investment rates		gdp growth rates		investment efficiency	
	1950-80	1990-98	1950-80	1990-98	1950-80	1990-98
countries whose growth in 90s is higher than base period						
argentina	20.83925	19	3.227787	5.2	6.456204	3.653846
chile	15.87329	31.6	4.2497	6.8	3.735155	4.647059
R. Dom.	19.61372	24.6	5.412405	4.8	3.623846	5.125
Peru	21.38037	25.4	4.678447	4.1	4.56997	6.195122
Uruguay	13.76361	14.7	1.796779	3.6	7.660161	4.083333
Countries whose rate of growth in 90s is lower than base period						
Brazil	21.25384	23.2	6.885859	2.5	3.086593	9.28
Colombia	19.81153	24.6	5.160219	3.5	3.839281	7.028571
C. Rica	22.11665	23.6	6.422899	3.6	3.443407	6.555556
Ecuador	21.03546	14.9	7.141495	2.5	2.945526	5.96
El Salvado	17.41697	18.2	6.017396	4.4	2.894437	4.136364
Guatamala	14.77687	10.7	4.689285	3.7	3.151198	2.891892
Honduras	19.28516	26.2	4.681968	3.3	4.119028	7.939394
Jamaica	25.16778	32	3.758114	0.4	6.696917	80
Mexico	20.55841	20.1	6.620653	2.7	3.105194	7.444444
Paraguay	18.90862	23	5.326408	2.1	3.549976	10.95238
T+T	27.68153	16.6	9.352346	2.5	2.959849	6.64
Venezuela	31.6658	15.3	6.16462	2.4	5.136699	6.375
Countries whose rate of growth is the same in 90s and base period						
Bolivia	22.98182	15.7	3.429397	3.7	6.701416	4.243243
Panama	25.20534	31.7	5.78462	4.3	4.357303	7.372093

Note that the three groups are classified by gdp per capita, but this table shows the growth in GDP itself, for the purposes of the discussion in the text.

Source: Base period data are taken from World Bank tables, data for the 1990s are from CEPAL. The investment ratios are in constant local currencies, where specific deflators are used for both investment and GDP

Overall there does not seem to be any clear relationship between changes in investment and changes in growth, except for the three oil economies. Some of the fast growers have raised their investment rates and some of the slow growers have lowered theirs, but an equal number have done the opposite. For every case of a Chile that would support the positive link between investment and growth there are at least two or three such as Jamaica, Colombia or Brazil that would contradict it.

The majority of countries are growing more slowly than they used to. But table 3 tells us that for most of them that is not for want of investing. In most cases they are investing even more than they used to. The problem is that investment is not as productive in producing growth as it used to be.

To show this we divide the investment rate by the growth rate and call the result the efficiency of investment. That number tells us what fraction of GDP has to be devoted to investment to produce an extra percentage point of growth.
Look now at the slow growing group. What is apparent is a widespread fall in the efficiency of investment, true for every single country other than Guatemala. All but the three oil countries and Guatemala increased their investment rate. They are all growing more slowly because capital is not producing as much growth as it used to. Each of these countries is having to save and investment much more than they used to just to maintain their growth rates.

The reason for this sharp decline in investment efficiency is not at all clear. It may come from technical factors. Growth may be more capital intensive than it used to be. It may require more investment in infrastructure and machinery than before. But the decline may also reflect demand-induced recessions or external shocks. Investment creates capacity. but if for some reason the economy is unable to utilize that capacity because balance of payments pressure, financial crises or external shocks, investment will appear to be less efficient in producing growth than it would in an economy which is able to utilize all of its capacity. Whatever the reason, the growth slowdown in the 1990s for the majority of countries was not due to a reduction in investment effort. Most of these countries invested more than they used to. But they got less growth for their efforts than before.

Argentina and Uruguay are the exception to this pattern. It used to take between six and seven percent of GDP to produce a one percent increase in the growth rate. But the efficiency of investment has increased significantly in both countries so that it now takes only 3-4 percent of GDP to produce a percentage point increase in the growth rate. Argentina and Uruguay grew faster in the 1990s than in the base period, not because they invested a greater share of GDP, but because their economies became far more efficient in the use of capital resources. Contrast that with the other three countries in the fast growing group. All three of them grew faster in spite of the fact that there was a fall in the efficiency of investment. They grew because they increased their investment rates.

Exports and import substitution

Probably the biggest single change in the growth strategy in Latin America has been the replacement of import substitution by exports. There has been a dramatic reduction in tariff rates and other forms of protection. It is not clear how this was expected to lead to an increase in exports, but there is no doubt that this was the expectation. The strategy was not for the government to switch from protecting inefficient domestic manufacturing production to supporting more promising export activities. On the contrary, the philosophy behind the reforms was to sharply reduce the government role in picking winners, subsidizing particular sectors, or promoting export activities. The theory was that as the demand for imports increased in response to lower tariffs, balance of payaments pressure would force a devaluation that would lead to an expansion in exports. The market itself would determine which sectors could compete and which could not in

the new strategy. Each economy would gain by concentrating its productive resources in the areas of its greatest comparative advantage.

This scenario does not take into account the effect of inflows of capital. If there is a significant increase in the inflow of capital, the expected currency devaluations may not take place. If that happens a country will face the negative impact of lower protection on its manufacturing production without an offsetting positive impact on potential export activities. The actions of both foreign and domestic owners of capital are crucial in this regard. Both are likely to be attracted by the reforms themselves-two in particular: macroeconomic policy reforms and privatization. The reforms promised a better environment for capital, both foreign and domestic. Government successfully controlled inflation, reduced their deficits, and stabilized their exchange rates. At the same time they sold off state enterprises at attractive prices to foreign investors or domestic capitalists who repatriated funds held abroad to buy them. All of this led to an avalanche of capital inflows to the region, reaching over $70 billion per year in the mid 1990s.

For many observers, these capital inflows were a strong signal that the reforms were working and that Latin America was on the right tract. But they could and did permit significant exchange rate appreciation in many countries, partly because those countries used the exchange rate to help control inflation. The policy did achieve much lower inflation rates, but the appreciation stopped the process by which lower tariff protection was supposed lead to a switch into export activities. Rather than being forced to produce exports to pay for increased imports, countries could export IOU's instead. In the short run that would tend to reduce output and employment. In short, the unintended side effect of successful reform could therefore be a big rise in imports not offset by rising exports and a net decline in the domestic production of tradables or of production altogether.

Empirically, how important was exchange rate appreciation and the change in imports and exports in explaining relative growth performance? Look first at exchange rate movements over the 1990s. (See table 4) In table four we have calculated the average real exchange rate indexes for two years at the beginning and the end of the decade. In the table a fall in the index is an appreciation of the real rate. The table tells us that real exchange rate appreciation has in fact been quite widespread in the region (13/18 countries in the table), in nine of which the appreciation over the decade was more than ten percentage points.

If one looks back at our classification of countries according to their growth performance in the 1990s in table two and movements in the real exchange rate, there is a clear negative correlation. Three of the four countries where the growth rate was rising over the period 1995-1999 had a real depreciation between the early and late 1990s. At the same time eight of the ten countries in which the growth trend was down in 1995-99 had a real appreciation.[3] The only exceptions are Costa Rica, Paraguay and Peru. None of these three had really big exchange rate moves either one way or the other.

[3] We have no comparable exchange rate information for Panama

Table 4: Real Exchange rate movements			
	average		
	91-92	97-98	
argentina	109.65	98.40	
Bolivia	85.55	93.70	
Brazil	112.90	98.80	
C. Rica	105.80	101.30	
chile	109.95	96.20	
Colombia	127.45	96.30	
Ecuador	115.40	97.35	
El Salvador	125.05	95.85	
Guatamala	109.50	95.75	
Honduras	95.50	94.05	
Jamaica	100.40	83.95	
Mexico	71.95	88.65	
Panama			
Paraguay	99.25	102.35	
Peru	94.75	100.25	
R. Dom.	106.65	101.95	
T+T	75.90	96.90	
Uruguay	128.70	98.15	
Venezuela	127.50	88.15	

Source: CEPAL, Estudio Economico, 1998-1999.
1995 = 100.

A decomposition of changes in production

Capital inflows and exchange rate appreciation appear to be a significant factor in many countries. But we still have no way of evaluating their effects on exports or imports. Presumably appreciation reduced exports and increased imports relative to what they would have been otherwise. Not having an econometric model of export and import demand, we address the impact question by estimating the contribution of changes in exports and imports to the observed overall change in demand over the 1990s. Export pessimists think that the negative impact on production due to the fall in protection of imports coupled with exchange rate appreciation exceeded the positive stimulus of export expansion. They expect that the net impact of reform-induced changes in foreign trade must have been to reduce domestic production. We now do a decomposition of the total change in GDP to evaluate this claim.

One way to decompose changes in GDP is to use an accounting identity such as Y = C+I+G+E-M. However the trouble with that approach is that it cannot distinguish between the impact of exogenous changes and endogenous changes. If consumption goes up, is that a cause of the rise in income or a result of that rise? Most economists think that consumption depends on income, so most of the change in that variable is a result of

changes in Y not a cause for those changes. To avoid this sort of problem we use a very simple demand side model which makes exports, government spending and exports exogenous, and which makes consumption, imports and tax revenues depend on income.

1) $Y = C+I+G+E-M$
2) $C = c(1-t)Y$
3) $M=mY$
4) $T=tY$

C is private consumption, I is gross investment, G is total government spending, E is exports, M is imports and c, t and m are average propensity to consume, the average tax rate and the import ratio.

With this simple Keynesian model it follows that:

5. $Y = (I+G+E)/(s+t+m-ts)$

where s is household average saving rate out of disposable income.

We can now calculate the different sources of the overall change in aggregate demand. The impact of a change in exports over any time period is the observed change in E times the multiplier $1/(s+t+m-ts)$. The impact of a change in investment and government spending is calculated in the same way. The impact of changes in imports, saving and taxes is the change in the multiplier resulting from the change in s, t or m times the initial level of I, G, and E. Each of these component changes measures the change in aggregate demand that would be observed if that variable, and only that variable were changed.

By construction, the sum of these six sources of change sums to the overall observed change except for a small cross-product term which is caused by the fact that the observed changes are not instantaneous. In table five we have decomposed the overall change in GDP between 1990 and 1998 into these six component parts. Recall that our main purpose here is to see what are the principal contributors to economic growth, and also to see whether rising imports offset the expansionary effect of export growth as some have claimed. To help in interpretation we have grouped the countries according to whether their growth in the 1990s was greater or less than the base period, just as we did in table 3. Note that all the data in the table are expressed relative to the total change in observed GDP. For example in Argentina the absolute change in investment over the decade was 137% of the net overall change in GDP. Exports added an additional 69% to the growth of demand. The positive effect of exports however was more than offset by an increase in the import parameter m. That change subtracted off 120% of the increase in demand.

Table 5: The contribution of changes in conponents of GDP to overall growth 1990-98											
	change in investment	change in exports	change in government	exogenous spending subtotal	change in tax rate	change in imports	change in saving	parameter subtotal	estimated change in demand	actual change	growth in GDP 90-98
countries whose rate of growth in 90s is higher than base period											
Argentina	1.370	0.690	0.000	2.060	0.000	-1.200	0.216	-0.984	1.076	1.000	0.575
Chile	0.601	0.637	0.061	1.299	-0.032	-0.349	0.110	-0.271	1.028	1.000	0.812
R. Dom	0.677	2.119	0.153	2.949	-0.046	-1.473	-0.328	-1.847	1.102	1.000	0.529
Peru	0.771	0.778	0.173	1.722	-0.115	-0.515	-0.043	-0.673	1.049	1.000	0.436
Uruguay	0.599	1.217	0.140	1.956	0.100	-1.234	0.204	-0.929	1.027	1.000	0.385
Countries whose rate of growth in 90s is lower than in base period											
Brazil	1.715	0.478	0.000	2.193	0.000	-1.213	0.065	-1.149	1.045	1.000	0.255
Colombia	-0.033	0.900	0.561	1.428	0.220	-0.330	-0.279	-0.389	1.039	1.000	0.363
C. Rica	0.304	1.479	0.063	1.845	-0.043	-0.678	-0.078	-0.798	1.047	1.000	0.372
Ecuador	0.357	1.068	-0.027	1.398	-0.062	-0.177	-0.134	-0.373	1.024	1.000	0.254
El Salvador	0.516	1.049	-0.128	1.436	-0.139	-1.088	0.840	-0.387	1.049	1.000	0.476
Guatemala	0.272	0.801	0.416	1.489	-0.154	-0.507	0.198	-0.463	1.025	1.000	0.389
Honduras	0.843	0.280	-0.045	1.078	-0.092	0.013	0.017	-0.063	1.015	1.000	0.336
Jamaica	na	na	na	na	na	na	na	na	na	na	
Mexico	0.731	1.462	0.122	2.315	0.324	-1.112	-0.460	-1.247	1.068	1.000	0.269
Paraguay	0.291	1.082	0.385	1.758	-0.055	-1.766	1.127	-0.694	1.064	1.000	0.213
T+T	na	na	na	na	na	na	na	na	na	na	
Venezuela	-0.094	1.789	0.084	1.779	-0.171	-0.118	-0.332	-0.621	1.158	1.000	0.244
Countries whose rate of growth is the same in the 90s as in the base period											
Bolivia	0.904	0.583	0.206	1.694	-0.136	-0.451	-0.063	-0.650	1.044	1.000	0.372
Panama	1.018	0.443	0.172	1.633	0.102	-0.455	-0.258	-0.611	1.022	1.000	0.462

Note: contribution of each factor is total change due to the factor as a fraction of the total absolute change in gdp. Investment is the sum of the change in investment each year times the multiplier, and the change in the three parameters is the change in the multiplier casued by the parameter change in each year times exogenous spending.

Consider now the contribution of exports and imports to the change in aggregate demand. In most countries exports are the biggest source of demand growth, adding more than 100% of the net increase in GDP in eight countries and more than 50% in an additional six. Exports are the leading source of growth in twelve of the 17 countries for which we have data. Brazil is a significant exception to this general pattern as is Honduras.

As mentioned above, critics of trade liberalization have charged that the rise in imports more than offsets the expansionary effect of increased exports. There appears to be some truth in this charge but only for a small number of countries mainly and specifically Argentina and Brazil. In both of these countries, highly protected domestic manufacturing was penalized both by trade liberalization and currency appreciation. For them as well as Paraguay and Uruguay, the external sector was a drain on domestic production. In 11 of the remaining 13 countries that is not the case. For each of them export growth exceeded, sometimes by a wide margin, the negative effect of rising imports.

In thinking further about the evidence, it is clear than one should make some allowance for the overall growth in aggregate demand. One can think of two alternative models, one where a country grows rapidly and uses imports to meet rising demand. That could be called benign import replacement. That is the case in Chile and Uruguay. But then there is the case of a Paraguay or a Brazil in which the import share rises rapidly but total demand does not. This pattern could be called import crowding out. Here imports are

replacing domestic production instead of complementing domestic production during a period of rapid growth. Yet it is hard to think of Paraguay as a case of import crowding out of domestic production since the economy was not a producer of manufactured imports to start with. Rather the substitution must have been in consumption. Too much of whatever expansion there was in domestic income came from consumption, and most of that must have gone into new imports. The import ratio went up from 23% in 1990 to 50% in 1998 in spite of very slow demand growth, particularly since 1995.[4]

The promise of trade liberalization was that it would shift production away from inefficient sectors and unleash a virtuous process of rapid, export-led growth. Has that happened? The answer is not in very many countries. If we say that export-led growth is where exports add more than 100% to aggregate demand and there is at least a 30% difference between the contribution of exports and imports, and GDP grows faster than 25% (2.5% per year) then only three countries, (Costa Rica, Dominican Republic, Mexico) meet the criterion. Venezuela is not in the group because of its very slow overall growth-the second slowest growing country in the entire region. It is significant that these three countries come from either Central America or the Caribbean. There is not a single case of export led-growth in the countries south of Panama.

This does not mean that there has not been a significant change in import and export behavior. There was a rise in the export share in every country in the region save Panama where it was already 99% in 1990, and a rise in the import share everywhere but Honduras. Some of these changes were very large-they more than doubled in four countries.

From the perspective of differences between fast and slow growers and its relationship to exports note that only one of the three cases of export led growth comes from the fast growth group in table 5 (the DR). All five of the rapid growers had good export growth. But that is not what distinguishes them from the other groups. On average their export growth contributed only slightly more than that of the slow growers, and their import contribution was actually a bigger offset. (The import share more than doubled in Argentina, Dominican Republic and Uruguay). But other than that what is different and significantly bigger is the contribution of investment. It added 80% to demand in the fast growers group, and only 49% in the slow growers group. What one can say is that in the fast growth group, exports rose a lot, supported by significant investment and a big increase in the share of imports. The slow growing countries did not invest as much nor was there as big a change in the import ratio.

For most countries, it would appear from the table that the biggest single contributor to growing aggregate demand was investment, not exports. In eleven of the 17 countries for which we have data growing investment comprised at least 50% of the total increase in GDP over the period. In all but five countries-(Costa Rica, Colombia, Ecuador Guatemala and Venezuela) it exceeds the contribution of exports net of imports.

[4] The reader may note that El Salvador also is a case where the rise in imports more than offsets the impact of rising exports. But that is because of the extraordinary role of remittances in increasing consumption.

There are several countries for which private and public consumption are the primary sources of demand growth rather than either exports or investment. Those countries are Colombia, Paraguay, Guatemala and El Salvador. Salvador reflects the impact of remittances on household demand. Colombia shows an extraordinarily expansionary fiscal policy in which both expansions in government spending plus falling tax rates together comprise almost 80% of the total increase in demand over the decade. No other country comes close to that pattern.[5] Indeed in most countries the net impact of government, taking spending and tax rates together is minimal. Rising tax rates in eleven of the countries, offset most or in four cases all of the increase in government spending.

Another characteristic of the period is the amount of structural change in behavioral parameters in most countries, particularly the propensity to import. Recall that if there had been no change in saving, tax or import shares, any change in aggregate demand would have come from changes in exogenous spending (C+I+G). In every case those parameter changes were contractionary either because imports increased or tax and/saving rates went up. Overall those contractionary changes offset at least 50% of the growth in exogenous spending in 11/17 cases, Rising imports were the biggest of the three factors. In most countries the 1990s were a period of significant increases in the extent to which imports satisfied increases in domestic demand.

Latin America has converted to an outward looking growth strategy. For some countries that strategy has worked well. They had a change in production structure complemented by vigorous increases in investment and good growth. I would include Chile, Uruguay, the Dominican Republic, Costa Rica and Mexico in that group, the latter because of their strong growth fueled by exports at the end of the decade. But there are too many countries where that approach has not worked. Some like Honduras never really had a change in production structure or much of an increase in exports. In others such as Venezuela, Paraguay and Ecuador, exports provided what growth there was, but that was not enough to support adequate growth for the entire economy. The oil economies faced sharp reductions in the terms of trade, and the other economies were unable to find an export niche promising enough to serve as the base for rapid growth.

Brazil and Argentina are special cases. Not surprisingly, Brazil has not done well under this model. Part of that is the result of macroeconomic policy mistakes which we will discuss in a moment. But it also follows from the differences between Brazil and the other economies of the region. Brazil had the largest and most domestic manufacturing sector in the region, mainly supplying its large internal market. At the beginning of the decade its import ratio was only 7%. Sharply reducing protection over the short run meant the destruction of a good deal of domestic production. Tariff reductions amplified by the appreciation of the currency exacted a high cost on the Brazilian economy. It is unlikely that exports could have grown fast enough to offset this rising imports, simply due to Brazil's large size and the range of raw material based products which are its main exports.

[5] The nearest is Mexico with the change in G adding 12% and falling tax rates another 32% to total demand.

Were balance of payments problems and fluctuations in the inflow of foreign capital the problem?

The 1990s have been a period of highly unstable and highly selective inflows of foreign capital. Capital began to flow into the region in large quantities in the early 1990s after the resolution of the foreign debt problem and the beginning of privatization. But these inflows were interrupted by the Tequila Crisis in 1995-6 and the Asian financial crisis in 1998-9. In Mexico the net transfer of resources (inflows of capital less amortization payments, interest and dividends) fell from over +$18 billion in 1992-3 to –$9 billion in 1996. Net capital inflows to Brazil fell from $19 billion in 1995-96 to only $1.4 billion in 1999. Since most countries in the region were dependent on capital inflows to finance current account deficits, sharp fluctuations in the availability of external capital could have caused the observed fluctuations in growth and the downturn in growth at the end of the decade.

However the historical evidence does not really support that interpretation in most countries. First of all, there are many countries that have not had significant fluctuations in the flow of external resources. In Bolivia, Uruguay, Honduras, Guatemala Paraguay and El Salvador there has been a fairly steady but small positive inflow of foreign capital. In Venezuela and Ecuador there has been a fairly steady outflow of capital. Fluctuations in the growth rate could not be driven by volatility in capital inflows for these countries. In Costa Rica and the Dominican Republic, net resource transfer turned negative in exactly the period when these two economies were growing rapidly.[6]

For the remaining countries which both had large inflows and large fluctuations (Brazil, Chile, Mexico, Argentina, Peru, Colombia), if one plots growth rates against net resource transfers over the decade, it would be more accurate to say that NRT lagged changes in the growth rate rather than causing them. Brazil's case is typical. NRT peaked in 1995-96 when the growth rate was falling from its peak in 1994. In Argentina, growth peaked in 1997 but NRT peaked the following year. The same is true for Colombia and Peru. In Mexico there undoubtedly is a relationship between growth and inflows with rising growth and increases in capital inflows going together at the end of the decade. But like the other countries, changes in NRT lagged behind changes in the growth rate in 1994-95, and then lagged behind in the subsequent recovery. We conclude that for the most part fluctuations in growth, and by inference, the growth slowdown at the end of the decade could not have been caused by variations in the inflow of foreign capital. Growth patterns in the region must be coming from different causes.

[6] In the DR net resource transfer has been negative since 1993, and in Costa Rica net resource transfer turned negative in 1998 and 1999, just when the country was recovering strongly from its banking crisis several years earlier.

The impact of the reforms

Whatever it is that is causing the slowdown in growth in the region in the 1990s, it is not the reforms. To show we use a measure of reforms in five areas developed by Lora (1998) and Morley et al (1999). The Lora-Morley index measures the degree to which each country in the region has reformed relative to the most reformed country in five different areas: trade reform, capital account liberalization, tax reform, financial reform, and privatization. If one takes the average reform index in 1995 and relates it to the change in the growth rate between the 1950-80 base period and the 1990s, in a cross country regression, there is a significant positive relationship between the reform index and the change in the growth rate. (See figure 1) Those that were further along in the reform process had a better chance of improving their growth performance than those that had reformed less. The relationship is not close but it is unmistakably positive and also significant. Not only the change in the growth rate but also the growth rate in the 1990s alone are both positively related to the level of reform in 1995. The positive relationship holds even in the more turbulent five-year period, 1995-99. (See figure 2).

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Figure 1: Change in growth and reforms

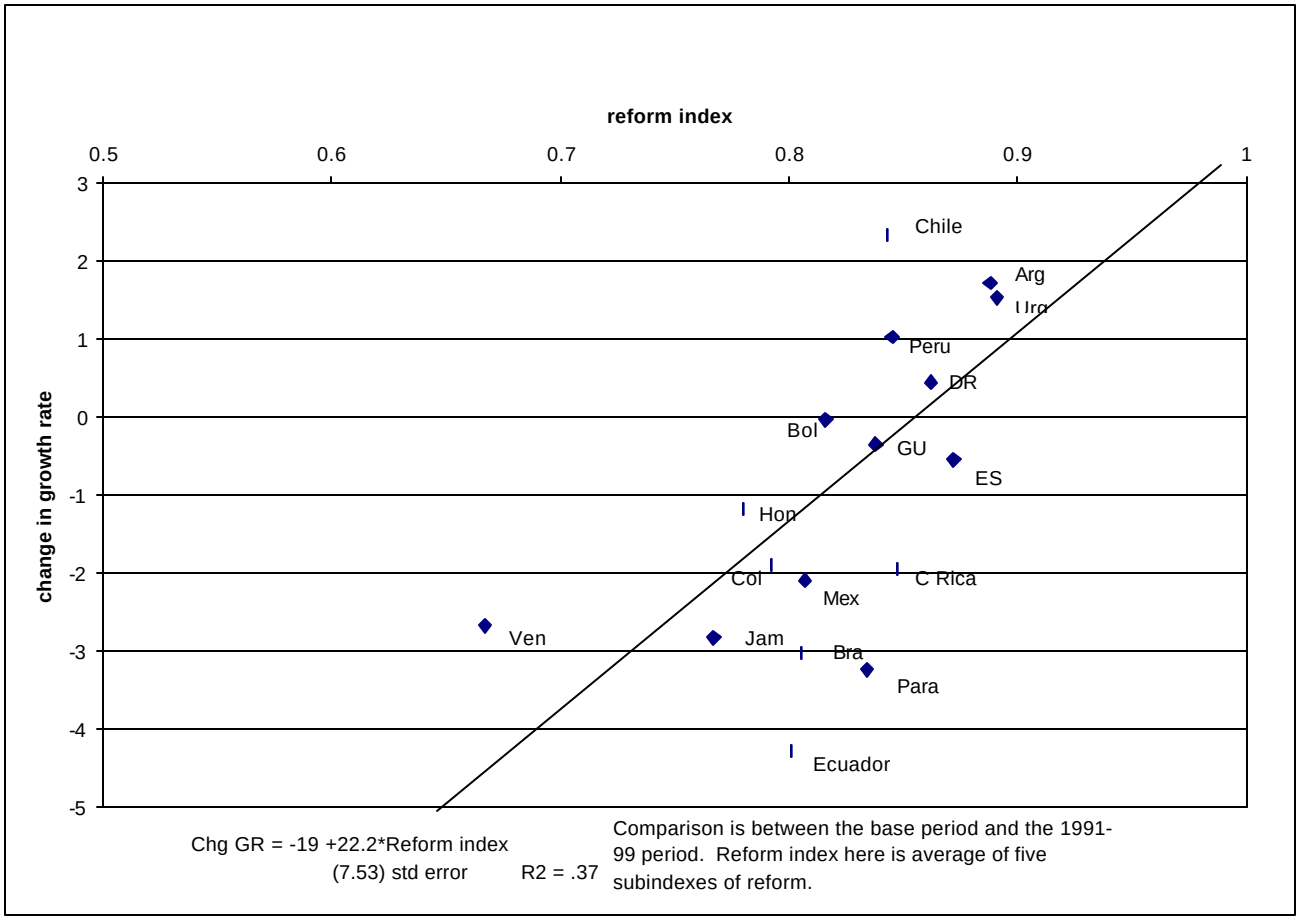
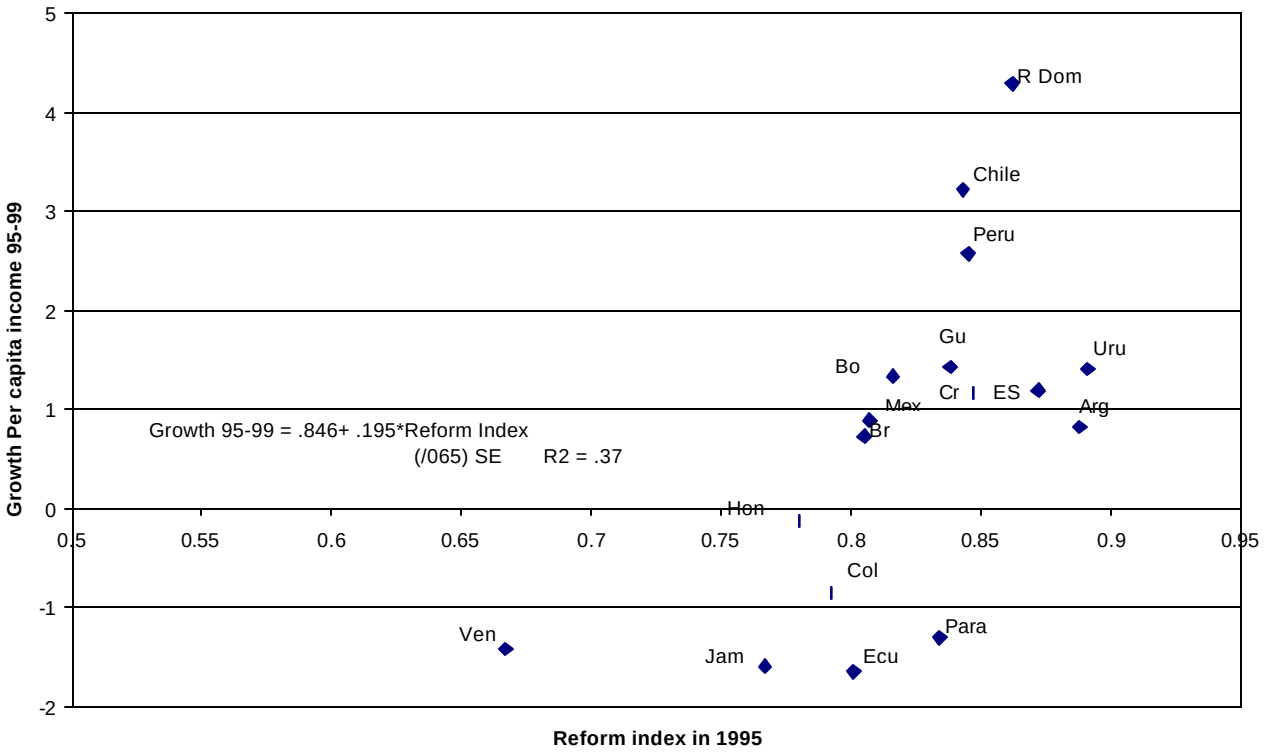


Figure 2: Growth 95-99 and Reforms



What explains the downturn in growth after 1995?

As noted as the outset of this paper, there has been a significant downturn in growth in the region since 1995. All but two of the countries in our sample grew more slowly in the last four years than they did in the previous five. The slowdown is particularly severe in the last two years.

Table 6: exports and imports 1997-99

	total exports		total imports	
	1997	1999	1997	1999
Latin America	326862	339850	356862	359550
Costa Rica	5478	8150	5690	7540
D. Republic	7061	8110	7780	9580
Mexico	121831	148300	122424	154620
sub total	134370	164560	135894	171740
Rest of L. America	192492	175290	220968	187810
C Amer+Caribbean north of Panama	142798	173575	147282	185335
South America	184064	166275	209580	174215

Source: Balance Preliminar de las economies de America Latina y el Caribe, CEPAL (1999). In millions of current dollars.

The main reason for this deterioration in performance is a serious and widespread decline in exports affecting almost every country in the region. That reduction has forced most

economies onto a slower growth path in order to reduce the volume of imports and conserve foreign exchange. There are exceptions to this pattern of course, the most important being Mexico. The good performance in Mexico, Costa Rica and the Dominican Republic hides the bad performance of the export sector elsewhere. Exports rise by 22% between 1997 and 1999 in those three economies but fall by 9% in the rest of the region. That permitted a 26% rise in imports for the three and forced a 16% decline

elsewhere. (See table 6) Part of the poor export performance is related to the collapse of oil prices in 1998 and 1999. but that is not the only explanation. Every country in Latin America suffered a reduction in exports with the exception of Colombia where they were approximately constant. Every country in Central America north of Panama had an increase in its exports. Mexico and Costa Rica are only the biggest gainers in this regard. If one splits the region by those countries south and north of Panama, the contrast in performance is even more stark than that shown in the table. South America and Panama

had a 10% reduction in exports and a 17% reduction in imports compared to a gain of 21% in exports and 26% in imports for their northern neighbors.

Most of the difference in performance between Central and South America undoubtedly relates to the internal conditions in their main respective export markets. South American exports go primarily to Asia and Europe, while Central America's and the Caribbean's go to the United States. Japan and Europe has had a period of slow growth. Meanwhile the United States has been in an extended boom period. These relative trends outside the region must have been reinforced by slow growth in Brazil, a major export market for Argentina, Uruguay, and Paraguay.

The contribution of falling exports to the growth slowdown in South America did not come from the sort of destructive import substitution that we discussed earlier. That is import substitution was not displacing domestic production and causing recession except possibly in Argentina and Brazil. Overall we can see from table six that the reduction in imports in the slow growing areas exceeded the reduction in exports. If one calculated the ratio of imports to income, there is not a single country in South America in which that ratio increased as their growth either slowed down or went negative between 1997 and 1999. Where the foreign sector exerted a contractionary influence, it is falling exports and not rising imports that are the reason. What the experience of South America in the last several years has shown is that the export-led growth model can as easily become an export-led decline when there is a significant contraction in countries' external markets.

To shed more light on the causes of the slowdown since 1995, we performed the same sort of decomposition analysis that underlies table 3 for the eleven countries that were most affected.[7] That analysis shows that the slowdown was not caused by contractionary fiscal policy, expect possibly in Ecuador, nor was it casued by a reduction in investment. Government spending adds to demand in all ten cases, and tax receipts fall as well in four of the eight for which we have data. These expansionary fiscal effects are the largest source of demand growth in Colombia and Paraguay. The investment share did fall a bit in 1995 in four countries, El Salvador, Paraguay, Peru and Colombia, but even these countries were investing over 20% of GDP in 1998. In the remaining six countries the investment share increased and the contribution of investment growth to the overall change in GDP was strongly positive. For the most part these countries continued to invest strongly, but they did not get much growth for their efforts.

The export-led growth strategy is not working well for most countries in the region.

As we have seen, exports have not provided the dynamic growth needed to produce really rapid income growth, in most countries in the region, particularly those in South America. Partly that is because markets in developed countries for the goods produced by developing countries have not been growing as rapidly as they did earlier. (only 9.7% between 1995 and 1998 or 4.8% per year compared to 9.7% per year between 1991 and

[7] Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Panama, Peru, Paraguay, El Salvador and Venezuela.

1995). But there is another factor at work and that is that Latin America is losing market share as well.

Table 7: Exports from South America and imports of industrialized countries.

	exports to industrial countries in millions of $		total exports in millions of $			total exports,1999
	1995	1998	1991	1995	1998	estmate
Argentina	6632	7764	11975	20391	25227	22056
Bolivia	707	711	849	1139	1320	1213
Brazil	26122	27980	31620	46605	51152	47339
Chile	10065	9118	9028	16538	15192	15734
Colombia	6501	7901	7244	9859	11579	12620
Ecuador	2872	3168	2883	4358	4908	5026
Panama	934	514	342	1500	706	568
Paraguay	228	381	792	919	1259	888
Peru	3477	3948	3329	5513	5635	5948
Uruguay	623	686	1588	2121	2769	2427
Venezuela	12272	11470	4072	18457	17161	20055
total	70433	73641	73722	127400	136908	133874
growth rate per year		98/95		95/91	98/95	99/95
		0.0148		0.147	0.0243	0.0125
Industrialized countries (billions of $)						
	1991	1995	1998	growth per year 91-95	growth per year 95-98	
total imports	2602	3392	3831	0.0685	0.0414	
imports from LDCs	667	966	1112	0.0970	0.0480	
United States (billions of $)						
total imports	509.299	770.947	944.644	0.1092	0.0700	
imports from LDCs	210.684	342.034	439.412	0.1288	0.0870	
industrial countries less US (billions of $)						
total imports	2092.701	2621.053	2886.356	0.0579	0.0326	
imports from LDCs	456.316	623.966	672.588	0.0814	0.0253	

Source: IMF, Direction of Trade Statistics Yearbooks. Estimates for 1999 are based on CEPAL indexes of the total value of exports for 1999 and 1998, applied to the IMF 1998 data.

Consider the evidence in table 7. There we show the total value of exports of each of the countries of South America plus Panama broken down by destination for the years1995-1999. These are the countries that we found earlier have been particularly affected by the slowdown in overall income growth in the last half of the 1990s. The table also shows the total imports from LDCs of all the industrialized countries, including and excluding the United States for 1991, 1995 and 1998.

First of all, there has been a very significant slowdown in export growth for these countries in the last five years-from 14.8% per year 1991-1995 to only 1.25% between 1995 and 1999. Judging by the 1995-98 data for which we can separate exports by destination, the slowdown is concentrated in Latin exports to developed countries. They grew only 1.5% per year compared to growth overall of 2.4% per year.

Partly the slowdown must be due to slow growth in most industrial countries. Their growth rate of imports from LDCs has been cut in half between the first and the second half of the decade. (from 9.7% to 4.8%). A growth rate of 4.8% is not a large number, but even it is significantly higher than the growth rate of South American exports into these markets. It is only 1.5% per year. The Latin countries have therefore been losing market share. This is not just because South America exports more to Europe and Japan than it does to the United States. We have separated out the US data to make this point clear. Total imports from LDC's of the non-US industrialized countries grew by only 2.5% per year between 1995 and 1998, but that is still faster than the growth rate of 1.5% of Latin American exports into those markets, From the evidence available the situation has worsened in 1999 thanks to sharp reductions in total exports in Argentina, Bolivia, Brazil, Uruguay, Panama, and Paraguay.

I conclude that export promotion as a growth strategy is not working very well in these countries. Partly that may be a short run problem of cyclic downturns in natural resource product markets and slow growth in total demand for the sorts of products Latin countries sell. But the loss of market share time indicates that there is something else going on at the same time. Latin America could be specialized in the wrong products or the wrong countries–ones where the overall growth in demand is low. Or it could be that Latin export activities have failed to modernize and cut costs to more effectively compete against other developing countries. Whatever the cause of the export slowdown is, no export-led growth strategy is going to work if it cannot produce an export growth rate higher than 2-3% per year.

Conclusions and implications

Too many countries in the region have failed to find a stable, sustainable growth strategy. They have significantly overhauled and reformed their economic policies, privatized their state enterprises and raised their investment rates and increased their reliance on market signals and market incentives. But the results in too many countries have been meager. As the time since the adoption of the reforms has increased, the growth rates have declined instead of increasing as was expected. The reforms themselves cannot be blamed for this outcome. Countries further along in the reform process have outperformed the slow reformers in most cases. Nor is the slowdown due to a lack of investment. In most countries investment rates have risen, but they are now producing less growth than they used to. Nor was the slowdown caused by volatile capital inflows and reductions in foreign investment. Those did occur but they seem more the result than the cause of the economic slowdowns in most countries.

The main factor that has changed in recent years is the performance of exports. Export growth has fallen sharply in the last five years for the majority of the countries in the region. Partly that is because the overall demand for developing country exports has slowed down due to slower growth in Europe and Japan. But on top of that, Latin countries have been losing market share, particularly those south of Panama. As a result exports net of imports are no longer the significant source of growth that they were earlier in the decade. A few countries, notably Mexico, Costa Rica and the Dominican Republic escaped from this slowdown. Each of them has developed a special export niche that has permitted or induced rapid overall growth. The lesson here seems to be that countries need a special action or intervention such as NAFTA in Mexico, Intel in Costa Rica or a duty free zone in the Dominican Republic in order to produce an export growth rate fast enough to support rapid growth overall.

Most countries have been unable to duplicate the successes of these three economies. To do so, a simple reliance on market signals and profit incentives is not likely to be sufficient, though it is probably necessary. Export potential and export markets have to be developed. That may take special laws, special incentives for foreign investors and other actions all of which will require a cooperative effort of private capital and government to develop those areas in which a country has a potential comparative advantage. At the very least policymakers should manage the exchange rate so that it favors rather than penalizes exporters and producers of import substitutes even if that creates some inflation risk. The currency appreciations of the 1990s are one of the factors that has curtailed the overall growth rate of tradables.

In addition to that government has a role to play in the development and promotion of exports markets, investments in infrastructure, subsidizing research and training, quality control and many other actions. The reforms of the Washington consensus should not be thought of getting the government out of all activities that have an impact on the market. Government necessarily has a role to play in activities which the market alone performs badly or not at all and whose object is a faster rate of growth. The lesson of recent Latin experience is that markets alone do not guarantee a stable or a rapid growth rate. It is going to take a positive alliance between a reformed government, the private sector and foreign investors to get the economies of the region back on a satisfactory growth trajectory. In the next stage of the reforms, policymakers need to be thinking more about what they need to do to support increased domestic production in both the export and other sectors of the economy.

References

Lora, Eduardo, (1998), " Una decada de reformas estructurales en America Latina; que se ha reformado y como medirlo," *Pensamiento Iberoamericano-Revista de Economica Politica* (Volumen Estraordinario).

Lora, Eduardo and Felipe Barrera, (1998), "El crecimiento economico en America Latina despues de una decada de reformas estructurales, *Pensamiento Iberoamericano-Revista de Economica Politica* (Volumen Estraordinario).

Morley, Samuel A. (2000) *La Distribucion del Ingreso en America Latina y el Caribe* (CEPAL and Fondo de Cultura). to be published in English as The Distribution Problem in Latin America.

Morley, Samuel A., (2000a) "The Effect of Growth and Economic Reform on the Distribution of Income in Latin America," *Cepal Review vol 71*.

Morley, Samuel A. Roberto Machado and Stefano Pettinato, (1999) "Indexes of Structural Reform in Latin America," (CEPAL, Serie Reformas Economicas #12).

Rodrik, Dani, (2000) "Why is There so Much Economic Insecurity in Latin America?" (Kennedy School, processed)

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